



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,116	10/17/2003	Fumito Nariyuki	FS-F03210-01	7360

37398 7590 06/28/2005

TAIYO CORPORATION  
2111 JEFFERSON DAVIS HIGHWAY  
#412, NORTH  
ARLINGTON, VA 22202

EXAMINER
----------

CHEA, THORL

ART UNIT	PAPER NUMBER
----------	--------------

1752

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/687,116

Applicant(s)

NARIYUKI, FUMITO

Examiner

Thorl Chea

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2005.  
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-29 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 14-29 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This is the second office action responsive to the communication on April 8, 2005.

Claims a4-29 are pending in this instant application.

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the scale in the Absorption axe in Fig. 1 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1752

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14-16, 18, 21-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of EP 1096310 A2 (EP'310), Okada et al (US Patent No. 5,952,167), Uytterhoven et al (US Patent No. 6,143,488) and Siga et al (4,332,889). EP'310 discloses a method of developing a photothermographic material comprising a step of imagewise exposing a thermally developing wherein the temperature of the development is within 80 °C to 250 °C and the development time is within 10 to 180 second. The material contains silver halide, non-photosensitive organic silver salt, a reducing, binder and a halogen containing compound; wherein the silver halide that can be used is not particularly limit as for halogen composition, and silver chloride, silver chlorobromide, silver bromide, silver bromoiodide and silver chlorobromoiodide may be used. Silver halide can be spectrally sensitized within a desired wavelength depending the characteristics of the light source to be used in the exposure. The material contains a hydrogen bonding, bisphenol reducing agent and development accelerator. See the process on page 53, [0211] to [0215]; silver halide on page 35, [0075]; reducing agent on pages 6-11; hydrogen bonding compounds on page 20-34; development accelerator on page 36, [0082], organic polyhalogenated compound on pages 59-60, [0241] to [0243]; the grain size of the photosensitive silver halide is preferably small in order to suppress turbidity after image formation, which is from 0.01 to 0.15 micron on page 36, [0077]; the chemical sensitization on page 37, [0087]; and spectrally sensitize silver halide to appropriate light source on page on page 36, [0083].

Art Unit: 1752

Okada et al discloses an organic polyhalogenated compound of formula (I) in column 2. Uytterhohoeven et al discloses a use of silver halide having content at least 80 mole % to provide a photothermographic material with improved post-stability, and the recording process includes the step of using UV light. See abstract and column 11, lines 15-35. Siga et al disclose the use of bromiodide having iodide content from 30/70 to 92/2 to provide a photothermographic material with excellent stability. See abstract and column 6, lines 43-68.

The additives contained in the claimed material have been conventionally known in the art such as the silver halide composition and the polyhalogenate compound. The difference between the invention as claimed and that taught in the applied prior art of record is step the thermally developing being started within 60 second after imagewise exposure of the photothermographic sheet. However, this selecting of the period between the step of imagewise exposure and the thermally development would have found obvious to the worker of ordinary skill in the art at the time the invention was made since image forming in the photothermographic material is formed by heat development after imagewise exposure, and the timing between the imagewise exposure and the heat development is not critical to the process so long as the heating development followed after the imagewise exposure. The worker of ordinary skill in the art would have applied heat development right after imagewise exposure due to the instability of the latent image formed in the material after imagewise exposure.

5. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of EP 1096310 A2 (EP'310), Okada et al (US Patent No. 5,952,167), Uytterhoven et al (US Patent No. 6,143,488) and Siga et al (4,332,889) as applied to claims 14-16, 18, 21-29 above, and further in view of Farid et al (US Patent No. 5,747,236) or Asanuma et al (US Patent No.

Art Unit: 1752

6,686,140) . The applied prior art disclosed in the paragraph 4 above fail to disclose the compound that can be one-electron-oxidized to provide a one-electron oxidation product which releases one or more electrons. The compounds however have been known in Asamuma et al in column 6, Type 1 to Type 5, and Farid in the abstract. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use the known compound taught in either Farid et al or Asanuma to provide the material of Uytterhoeven et al with high photographic speed and low fog, and thereby provide an invention as claimed.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of EP 1096310 A2 (EP'310), Okada et al (US Patent No. 5,952,167), Uytterhoven et al (US Patent No. 6,143,488) and Siga et al (4,332,889) as applied to claims 14-16, 18, 21-29 above, and further in view of Hirabayashi (US 2002/0123016A1). The applied prior art in the paragraph 4 fails to disclose to exposed the photographic material with a specific wavelength of 350 nm to 450 nm, but it has been known in Hirabayashi to use light source having emission wavelength of 350 nm to 450 nm to expose the photographic material that results in image superiority. See abstract and page 1, [0005]. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to expose the material obtained by the combination of the applied prior art above with use light source having emission wavelength of 350 nm to 450 nm to expose the photographic material that results in image superiority.

Claims 14-29 are provisionally rejected under 35 U.S.C. 103(a) as being obvious over copending Application No. 10/191,485 (US 2003/0118953) which has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e) if published or patented. This

Art Unit: 1752

provisional rejection under 35 U.S.C. 103(a) is based upon a presumption of future publication or patenting of the conflicting application. See the composition of the photothermographic material and the process of forming an image on pages 47-49 wherein the material contains polyhalogenate compound, silver halide having iodide content of 40 mole % to 100 mole% and using light exposure of 390 nm to 430 nm and heat developing at temperature of 110 °C to 130 °C. The difference between the invention as claimed and that taught in the applied prior art is step the thermally developing being started within 60 second after imagewise exposure of the photothermographic sheet. However, this selecting of the period between the step of imagewise exposure and the thermally development would have found obvious to the worker of ordinary skill in the art at the time the invention was made since image forming in the photothermographic material is formed by heat development after imagewise exposure, and the timing between the imagewise exposure and the heat development is not critical to the process so long as the heating development followed after the imagewise exposure. The worker of ordinary skill in the art would have applied heat development right after imagewise exposure due to the instability of the latent image formed in the material after imagewise exposure.

This provisional rejection might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or by a showing of a date of invention for the instant application prior to the effective U.S. filing date of the copending application under 37 CFR 1.131. This rejection might also be overcome by showing that the copending application is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Art Unit: 1752

Claims 14-29 are provisionally rejected under 35 U.S.C. 103(a) as being obvious over copending Application No. 10/403,006 (US 2003/0207216A1) which has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e) if published or patented. This provisional rejection under 35 U.S.C. 103(a) is based upon a presumption of future publication or patenting of the conflicting application. See pages 55-57 and page 33, [0394], compound of general formula (H). The copending application discloses similar material and process, except failing to disclose of step the thermally developing being started within 60 second after imagewise exposure of the photothermographic sheet. However, this selecting of the period between the step of imagewise exposure and the thermally development would have found obvious to the worker of ordinary skill in the art at the time the invention was made since image forming in the photothermographic material is formed by heat development after imagewise exposure, and the timing between the imagewise exposure and the heat development is not critical to the process so long as the heating development followed after the imagewise exposure. The worker of ordinary skill in the art would have applied heat development right after imagewise exposure due to the instability of the latent image formed in the material after imagewise exposure.

This provisional rejection might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or by a showing of a date of invention for the instant application prior to the effective U.S. filing date of the copending application under 37 CFR 1.131. This rejection might also be overcome by showing that the



Art Unit: 1752

compending application is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Claims 14-29 are provisionally rejected under 35 U.S.C. 103(a) as being obvious over compending Application No. 10/285,644 (US 2003/0232288 A1) which has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the compending application, it would constitute prior art under 35 U.S.C. 102(e) if published or patented. This provisional rejection under 35 U.S.C. 103(a) is based upon a presumption of future publication or patenting of the conflicting application. See pages 192-195, claims 1-55 and the document as a whole which discloses the claimed invention, except failing to disclose the step of thermally developing being started within 60 second after imagewise exposure of the photothermographic sheet. However, this selecting of the period between the step of imagewise exposure and the thermally development would have found obvious to the worker of ordinary skill in the art at the time the invention was made since image forming in the photothermographic material is formed by heat development after imagewise exposure, and the timing between the imagewise exposure and the heat development is not critical to the process so long as the heating development followed after the imagewise exposure. The worker of ordinary skill in the art would have applied heat development right after imagewise exposure due to the instability of the latent image formed in the material after imagewise exposure.

This provisional rejection might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the compending application was derived from the inventor of this application and is thus not the invention "by another," or by a showing of a date of invention for the instant application prior to the effective U.S. filing date of the compending

Art Unit: 1752

application under 37 CFR 1.131. This rejection might also be overcome by showing that the copending application is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 14-29 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8-15 of copending Application No. 10/191,485 in view of Okada et al (US Patent No. 5,952,167). The difference between the claimed process is use of the organic polyhalogenate compound and the thermally developing being started within 60 second after imagewise exposure of the photothermographic sheet. The polyhalogenated compound has been known as antifoggant for photothermographic material, and it would have been obvious to include the polyhalogenate compound in the invention claimed in the copending application to improve the fogging property thereof. The step the thermally developing being started within 60 second after imagewise exposure of the photothermographic sheet would have found obvious to the worker of ordinary skill in the art at the time the

Art Unit: 1752

invention was made since image forming in the photothermographic material is formed by heat development after imagewise exposure, and the timing between the imagewise exposure and the heat development is not critical to the process so long as the heating development followed after the imagewise exposure.

This is a provisional obviousness-type double patenting rejection.

9. Claims 14-29 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 15-16 of copending Application No. 10/403,006 in view of Okada et al (US Patent No. 5,952,167 ). The difference between the claimed process is use of the organic polyhalogenate compound and the thermally developing being started within 60 second after imagewise exposure of the photothermographic sheet. The polyhalogenated compound has been known as antifoggant for photothermographic material, and it would have been obvious to include the polyhalogenate compound in the invention claimed in the copending application to improve the fogging property thereof. The step the thermally developing being started within 60 second after imagewise exposure of the photothermographic sheet would have found obvious to the worker of ordinary skill in the art at the time the invention was made since image forming in the photothermographic material is formed by heat development after imagewise exposure, and the timing between the imagewise exposure and the heat development is not critical to the process so long as the step of imagewise exposure followed by the heat development.

This is a provisional obviousness-type double patenting rejection.

***Response to Arguments***

10. Applicant's arguments filed April 8, 2005 have been fully considered but they are not persuasive because of new ground of rejection above. The step of thermally developing being started within 60 sec after imagewise exposure the photothermographic material would have been found prima facie obvious for the reason set forth above. The objection to the drawing is maintained. The applicants' argument is based on the drawing shown in the attached Fig. 8-1 from Nebletted 8<sup>th</sup> edition. This drawing is irrelevant to the present invention and relative absorbance unit is clearly shown, whereas the drawing shown in the present specification disclosure is not clearly understood with respect the unit of absorption. Therefore, the objection is maintained.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 1752

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tchea *tlm*  
June 16, 2005

*ThnKhea*  
Thorl Chea  
Primary Examiner  
Art Unit 1752